13. Macgillivrayi Group.

P. macgillivrayi Pfr.
P. caledonica Pfr.
P. carnicola Hartm.
P. paterna Hartm.
P. eximia Hartm.
P. albescens Hartm.
P. alabastrina Pfr.
P. turricula Pse.
P. radiolata Pfr.
P. eburnea Hartm.
P. proxima Hartm.
P. pyramis Hartm.
P. auraniana Hartm.
P. compressa Pfr.

Subgenus *Diplomorpha* Ancey.

The jaw, lingual dentition and genitalia are like *Partula*. The shell does not possess spiral striæ.

D. layardi Braz.
D. coxi Hartm.
D. delatouri Hartm.
D. peasei Cox.

BIFIDARIA: A NEW SUBGENUS OF PUPA.

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In the "Preliminary List of North American Pupidæ"[1] the name of this subgenus has been published, but without further note except that it was in my mss. for a few years. Since then I have obtained other species belonging to it, and became more and more convinced that it is really a natural group, and one of the richest in species.

The forms ranging under it are small, few exceeding 3 mm. of altitude (*P. armifera* Say, *hunana* Grdl.). In shape they are rather various; cylindric, turriculate, conic, ovoid. The color is a lighter or deeper horn, to chestnut on one, to colorless, i. e. whitish or glossy-albino on the other side; in some the coloration is rather constant while others show all these variations, e. g., *P. hordeacea* Gabb. The surface is smooth, polished, or finely striate or, though rarely, with fine ribs; heavily ribbed forms have not come to my notice. A prominent feature lies in the formation of the apertural lamellæ, or plicæ, especially in the one on the parietal wall; it is (with few exceptions) large and more or less distinctly complex, designated in the descriptions as "complex, twisted, bicuspid, bifurcate, emarginate,

[1] The Nautilus, VI, p. 4 and 7.

medio excavata, bifida," etc., and from this character the name of the group has been derived. A close examination of the different forms as well as of immature examples leaves no doubt that it is in fact composed of two different lamellæ, the parietalis (inner, deeper) and supraparietalis (outer, or "angular"), almost separate, side by side in some species (*recondita* Tapp.-Can.), united to almost a simple one in others (most of *P. rupicola* Say), comparatively small in *P. curvidens* Gld. and *pentodon* Say, as here the supraparietal is very small or almost obsolete.

The columellar, equally constant, is generally also somewhat complex. The typical inferior and superior palatal plicæ are always present, though sometimes quite small, and are, as a rule deep seated, never reaching the margin; in some species one or the other of them is in a peculiar oblique position (*P. contracta* Say, *P. recondita*). Generally there is a "tooth" or short fold at the base, in some species present or absent. Additional dentiform or lamelliform plicæ, sometimes very small, but characteristic, are found in many species; one on the parietal wall, between the "parietal" and the columella, constant (*P. armigerella* Reinh.) or inconstant (*P. curvidens* Gld.), one above the upper palatal (*P. armifera* Say) one between the two palatals, inconstant (*P. pentodon* Say, *curvidens* Gld.)

As there is no rule without exceptions—and in natural science these "exceptions" are always highly interesting!—some, or even all, of the typical folds may be absent in species which we have reasons to range under this subgenus (*P. corticaria* Say, *arizonensis* W. G. B.). But in general they are remarkably constant throughout the whole group which extends over North, Central and the northern coast of South America, the West Indies and Bermuda, Eastern Asia, and the islands of the Pacific and Indian Seas. Europe has no recent forms ranging in the group; but there is a fossil one, *P. lamellidens* from the miocene of Tuchoritz, Bohemia, closely allied to our *P. contracta* Say.

The species have been ranged under different subgenera, such as *Pupilla*, *Leucochila*, which neither comprise the whole group, nor are homogeneous in themselves, and which can only gain by the removal of these forms.

There are several distinct groups of which peculiar characters, the range of distribution and the species will be stated in the following.[1]

[1] Conf. Nautilus, VI, p. 4. The species enumerated there will be omitted here; and so will other species which I do not know well enough as to their identity, or their position.

1. Section: *Privatula*. North America.
Shell cylindric; lamellæ few and small or none.
Type: *P. corticaria* Say. ✓
2. Section: *Eubifidaria* (Bif. s. str.). America, Polynesia.
Shell cylindric to turriculate; lamellæ typical.
Type: *P. hordeacea* Gabb. ✓
P. barbadensis Küst (W. I.)
P. grevillei Chitty (W. I.) and numerous others.
P. exigua Ad. Mauritius.
3. Section: *Boysidia*.[1] Asia, Polynesia.
Shell conic; aperture very peripheric; lamellæ typical.
Type: *P. hunana* Grdl. (China.)
P. strophostoma Mlldff. (Philippines.)
4. Section: *Albinula*. America, Asia, Polynesia.
Shell oblong or conic-ovate or cylindrical, colorless (contains rather various forms and should be divided in groups.)
Type: *P. contracta* Say.
P. armigerella Reinh. (China.)
P. recondita Tapp.-Can. (Japan.)
P. pediculus Shuttl. (Japan, Samoa.)
P. artensis Montrz. (New Caledonia.)
P. meridionalis Mlldff. (From description; China.)
5. Section: *Vertigopsis*. North America.
Shell small, vertigo-like, albino; parietal lamellæ rather short and almost simple; palatals near the margin.
Type: *P. curvidens* Gld.

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So much for the shells. Of the soft parts very little is known as yet. But it is probable that further investigations will prove the relations shown by the shells, which in general yield true evidences of the natural position of their bearers.

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[1] Bœttger, in v. Mœllendorff (Jahrb. Mal. Ges., 1884, p. 180, 181) proposes the subgeneric name Gredleriella; but Gredler himself sent me specimens with the above. Dr. v. Mœllendorff ranges the group next to Scopelophila (*P. kokeili* Rssm. and *Rossmæssleri* Schm.); but the resemblance is only external, from the conic shape of the shells. In the configuration of the apertural parts and especially the lamellæ it closely resembles *P. contracta* Say, while in Scopelophila they are of quite a different type and wholly marginal.